

SCIENTIFIC NOTE

Thomas Wrentmore Cook Entomology Library.—The entomological library of the late Dr. Thomas Wrentmore Cook (1884–1962) was donated to the California Academy of Sciences by his widow, Mrs. Mary Manning Cook (now Mrs. George Wale) of Oakland, California. Arrangements for this important donation were made by Dr. and Mrs. Edward L. Kessel.

The Cook library on Formicidae, Hymenoptera, and General Entomology consists of 289 bound volumes (including 51 books and bound volumes of the papers of the renowned ant authority William Morton Wheeler), 25 parts of serials, 11 unbound volumes, and 1312 “reprints.” The 51 volumes of the books and papers published by Dr. Wheeler are a virtually complete collection of the 470 items by this world ant authority, and there are probably few such sets in existence.

The library also includes numerous papers on world ants by many authors, including bound volumes of the works of Arnold, Clark, Creighton, Donisthorpe, Emery (7 volumes), Escherich, Fielde, Forel, Huxley, Janet (2 volumes), Mayr, McCook, M. R. Smith, and Wasmann; titles on Hymenoptera such as “Catalogus Hymenopterorum,” vols. 1–10, by Dalla Torre, 1892–1902, “Nouvelle Méthode de Classer les Hyménoptères et les Diptères,” vol. 1, “Hyménoptères,” by L. Jurine, 1807, and “Additions et Corrections au Volume II de la Faune Entomologique du Canada traitant des Hyménoptères” by L’Abbé L. Provancher, 1889; and general works as “The Class Insecta” by Baron Cuvier (with supplementary additions by Griffith, Pidgeon, and Gray), 1832, “Über entomologische Sammlungen, Entomologen & Entomo-Museologie” by Walther Horn and Ilse Kahle, 1935–1937, and “Histoire Naturelle des Fourmis, et recueil de Mémoires et d’Observations sur les Abeilles, les Araignées, les Faucheurs, et autres insectes” by P. A. Latreille, 1802.

Dr. Cook, who wrote the book “The Ants of California” (Pacific Books, Palo Alto, pp. i–xiii, 1–462, illustrated, 1953), had a life-time interest in the Formicidae, having first undertaken graduate studies on this group of insects with Wheeler in 1932. It was mainly during the last fifteen years of his life, from 1948 on, that he assembled this extraordinary library on the ants of the world and on the order Hymenoptera.—PAUL H. ARNAUD, JR., *California Academy of Sciences, San Francisco, 94118.*

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The Lost Type of *Brachinus sallei* Chaudoir (Coleoptera: Carabidae).—In my 1970 revision of North and Middle American Bombardier Beetles (Quaest. Entomol., 6: 4–215) I stated that the type(s) of *Brachinus sallei* Chaudoir was presumed lost. The basis for this statement was, first, the indication by Chaudoir that he saw the specimens he described in Sallé’s collection, and second, the subsequent search in parts of this collection by George E. Ball in the Museum National d’Histoire Naturelle, Paris and by E. Taylor in the Hope Museum, Oxford, at my request. The specimen was not found in either museum where the type(s) should have been. Then, quite unexpectedly, during a recent visit to the British Museum (Natural History), supported in part by the American Philosophical Society, I

discovered a specimen of *Brachinus sallei* labelled "Orizaba, Mexico, Sallé Coll., type," "108" on green paper, and further labelled "Brachynus Salléi Chd. after Sallé, Salléi Chaud."

Consequently, this specimen, a male, is herewith designated LECTOTYPE. The type locality was originally stated by Chaudoir to be Mexico, and later restricted by me to Tabasco, Mexico on the basis of material seen; but Sallé's label "Orizaba, Mexico . . ." indicates the real TYPE LOCALITY. This locality record also indicates a wider distribution than I previously reported; the northern most locality then known was Lake Catemaco, Veracruz, Mexico.—T. L. ERWIN, *Smithsonian Institution, Washington, D. C., 20560.*

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Observations on the Life History of Bombardier Beetles: Mechanism of Egg-Hatching (Coleoptera: Carabidae).—In 1967 Dr. George Ball and I collected live specimens of various species of *Brachinus* throughout Mexico. These were kept alive in plastic bags until we returned to the University of Alberta, Canada. Subsequently, the specimens were sorted to species and placed in refrigerator trays containing moist peat, and maintained at room temperature. The specimens were fed injured insects and various cuts of beef. The colony of *Brachinus mexicanus* Dejean subsequently began mating and ovipositing, in a manner I have described previously [Erwin, 1967. *Coleopt. Bull.*, 21(2): 41–55]. The eggs in this case were not rolled in mud as they normally would be, because the peat substrate was unnatural. This allowed me to make continuous observations on the developing embryo through the very thin-walled egg. The development of the embryos required 7–10 days.

Most carabid larvae have one or two egg-bursters or spines on the frons with which the egg membranes are rasped and broken. The frons of known *Brachinus* larvae are smooth with no evidence of egg-bursters.

The young embryo of *B. mexicanus* develops in a C-shape within the ellipsoid egg; the frons, clypeolabral area, and dorsum of the mandibles are against the side wall, rather than one end. As the young larva grows, the point of one mandible presses against the egg membrane. At the proper growth stage, the wall is pierced by this mandible, and is probably helped by some muscle contraction. In dry, mud-encased eggs (the normal condition) the amniotic fluid moistens the dry mud covering the egg and allows the first instar to struggle free. Its subsequent behavior and development has been described before (Erwin, *ibid.*).—T. L. ERWIN, *Smithsonian Institution, Washington, D. C., 20560.*